



10 Innovative Trail Practices for Development and Deployment



Yves Zsuttu
Trail Network Manager



**Trail
Program**

Objective



Approach

Infrastructure

Communications

Public safety

Aesthetic design



Situation

Challenge

Research & Development

Innovation

Why innovate?

More competitive for internal funds and grants

Responsibility to the public and the practice

Pursue your best possible work

Culture

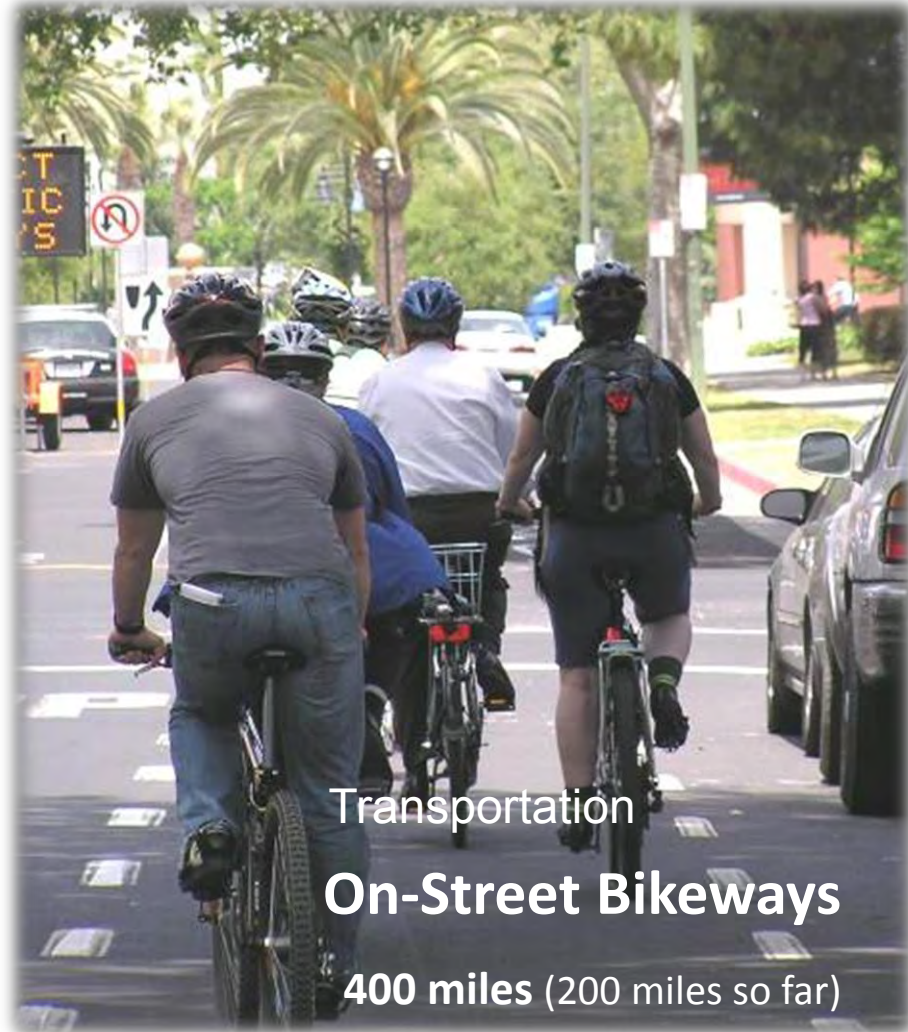








Vision for City: Green Vision's Bike Web



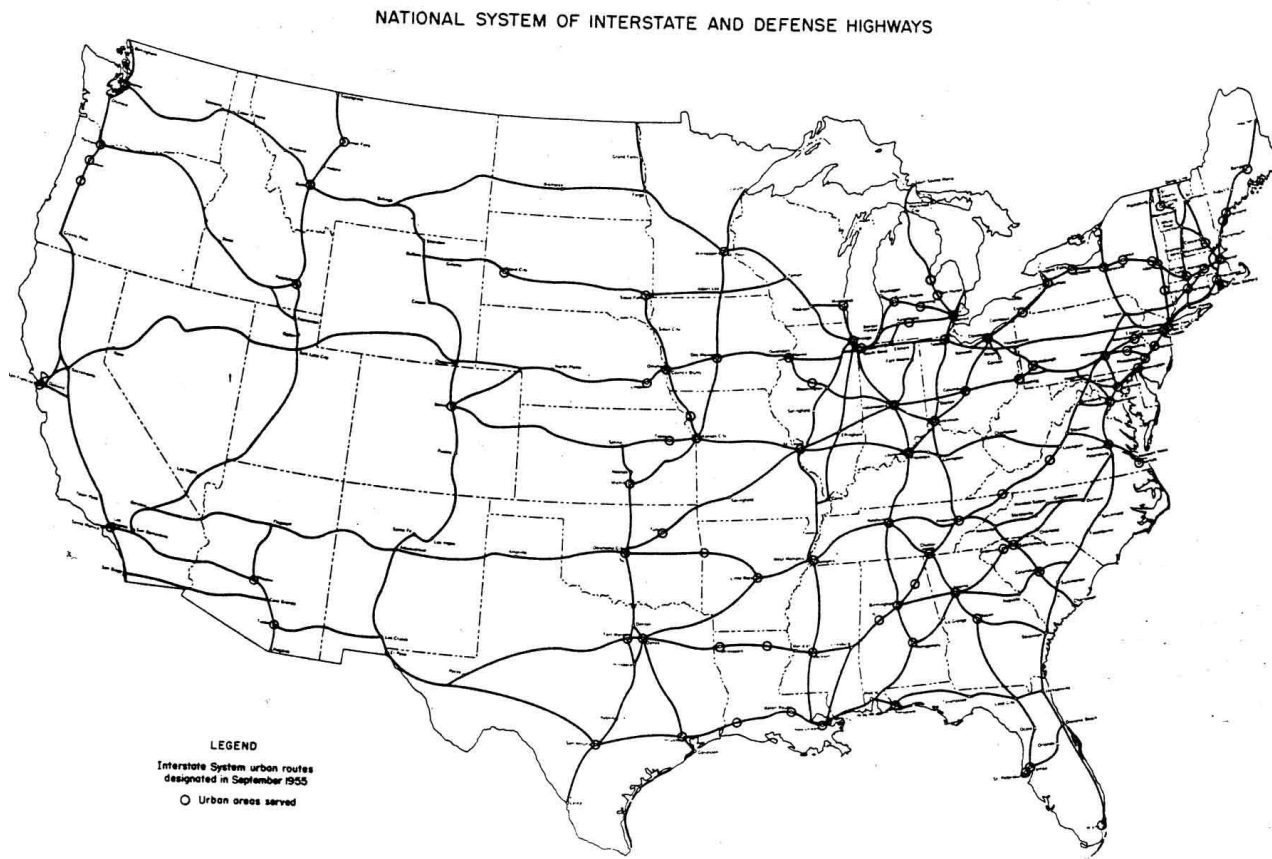
Vision for Trail Program:

National leader for trail integration in the urban environment

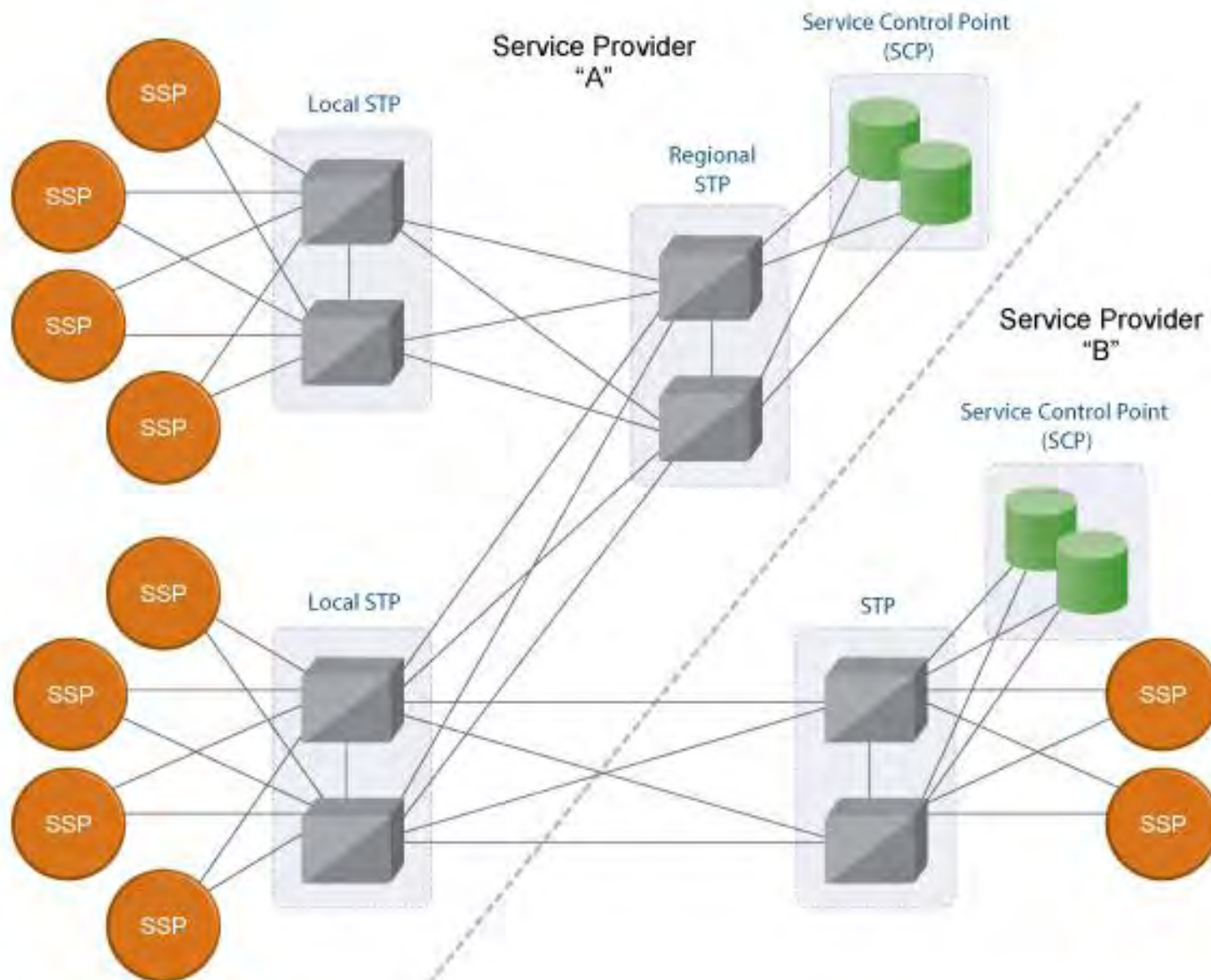
An aerial photograph showing a river winding through a city. The river is surrounded by dense trees with vibrant autumn foliage in shades of yellow, orange, and red. On the left bank, there are several large industrial or commercial buildings. On the right bank, there is a residential area with many houses. The river itself is a mix of green and brown, suggesting some algae or sediment. The overall scene is a blend of nature and urban development.

Innovation
Data Driven
Quality
Continuity
Memorable
Pace

Innovation #1: Interconnected Network



Trails as Transportation



Trails as Connected Network

1 Network

35 Trail Systems

- 24 Core Systems
- 11 Edge Systems

250 Reaches



At ground level











SCVWD



PG&E



Caltrans

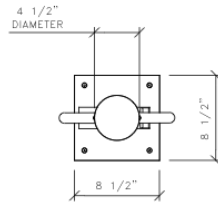


Innovation #2: The Bollard

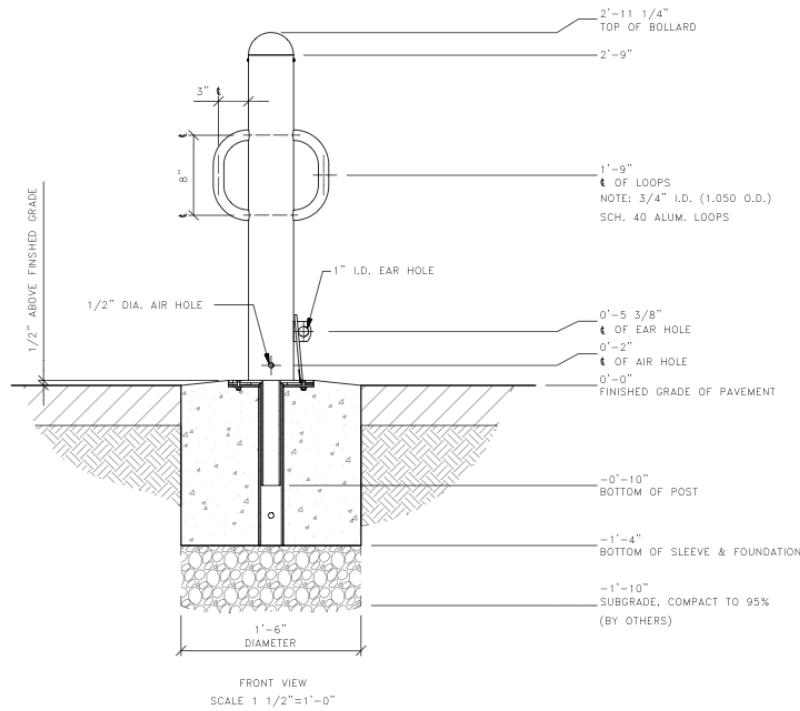




- Less weight
- Easier to handle
- Highly visible
- Eliminate “footing” or sleeve



TOP VIEW
SCALE 1 1/2"=1'-0"

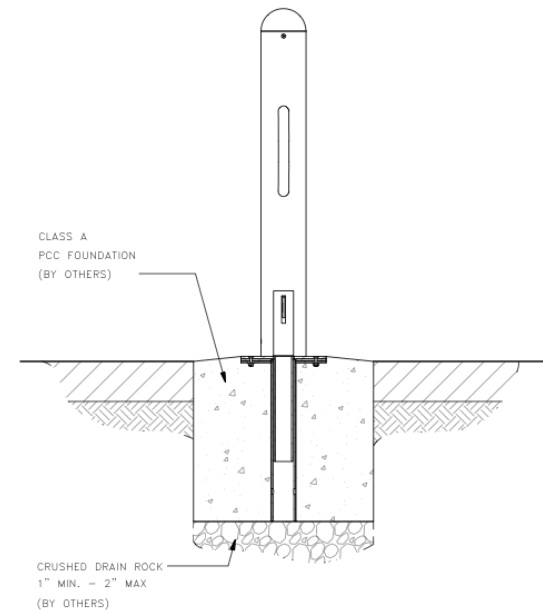


FRONT VIEW
SCALE 1 1/2"=1'-0"

ALUMINUM POST WITH DOME TOP &
TWO LOOPS ASSEMBLY
(NOTE: POWDER COATED YELLOW
WITH MIN. RETROREFLECTIVITY OF
17.5 MCD, M=2, LX -1)

ALUMINUM EMBEDMENT
SLEEVE ASSEMBLY

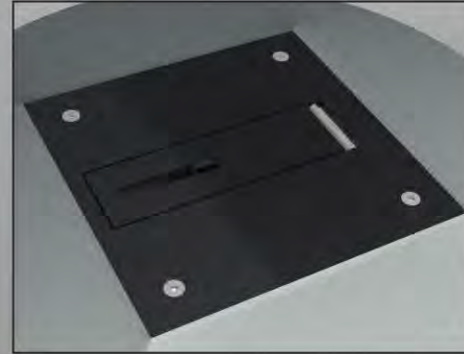
ISOMETRIC VIEW
SCALE NONE



SIDE VIEW
SCALE 1 1/2"=1'-0"

NOTE:
CONCRETE FOOTING AND NO. 4
REBAR (BY OTHERS) PER LOCAL
SOIL CONDITIONS. CONSULT
PROJECT ENGINEER FOR EXACT
REQUIREMENTS.

Date	Revision	By	COLUMBIA CASCADE COMPANY	Model No. 2190-RH-M REMOVABLE BOLLARD WITH HASP/HOLE COVER CITY OF SAN JOSE SAN JOSE, CA PARKPACIFIC, INC.
△			Makers of TimberForm [®] PipeLine [®] RePlay [®] TimberForm [®] -2 and CycLoops [®] Products.	
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Removable Bollard with Hasp/Hole Cover

City of San Jose

San Jose, CA

Park Pacific, Inc. - Walnut Creek, CA


Drawn by:	Date:	Rev. by:	Date:	Scale:
DG	06-10-11	.	.	None

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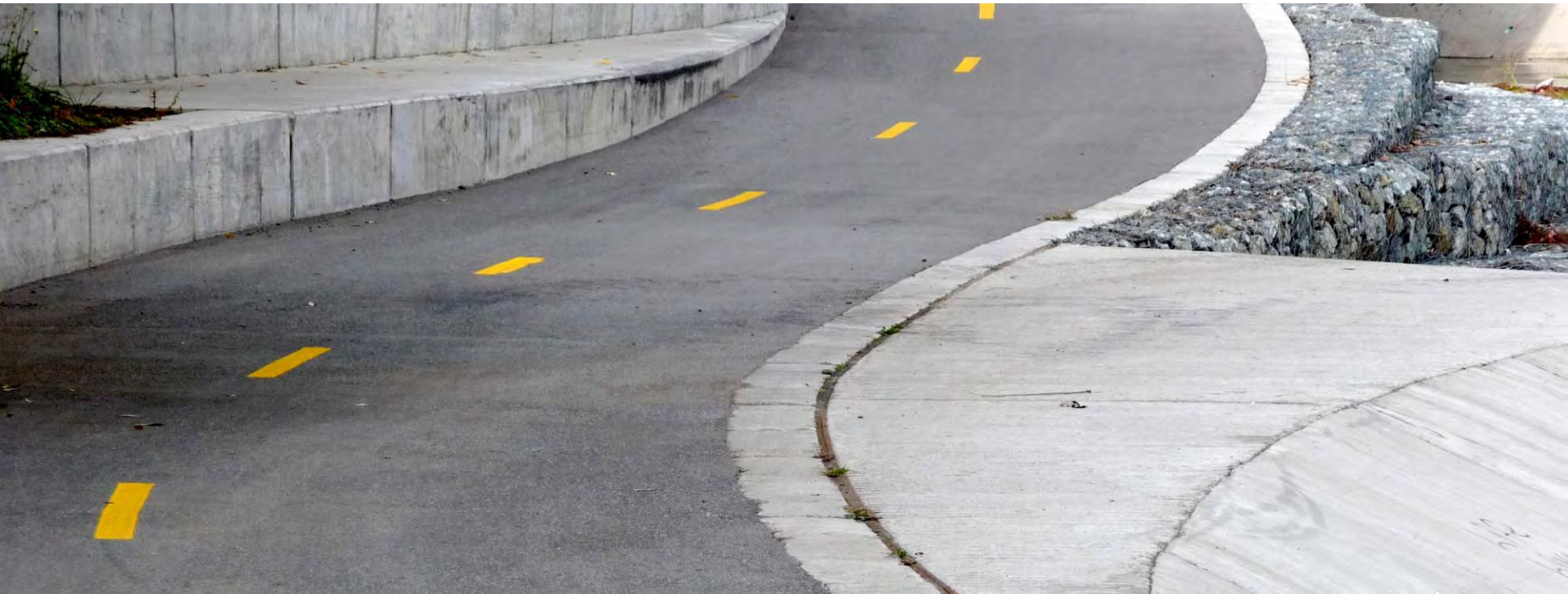
2 of 2

A photograph of a yellow bollard standing on a dark asphalt road. The road has yellow painted lane markings. In the background, there is a gravel shoulder and a line of green trees and bushes. The scene is brightly lit, suggesting a sunny day.

TIP: Associate your
innovations to cost savings

Work with outside partners


Innovation #3: Striping











TIP: Test and report on
success of
innovative efforts

Innovation #4: Pavement



Studies / Tests

- Recycled base rock
- Recycled asphalt
- Warm-mix asphalt







TIP: Budget for
repair/replacement
when piloting new
ideas





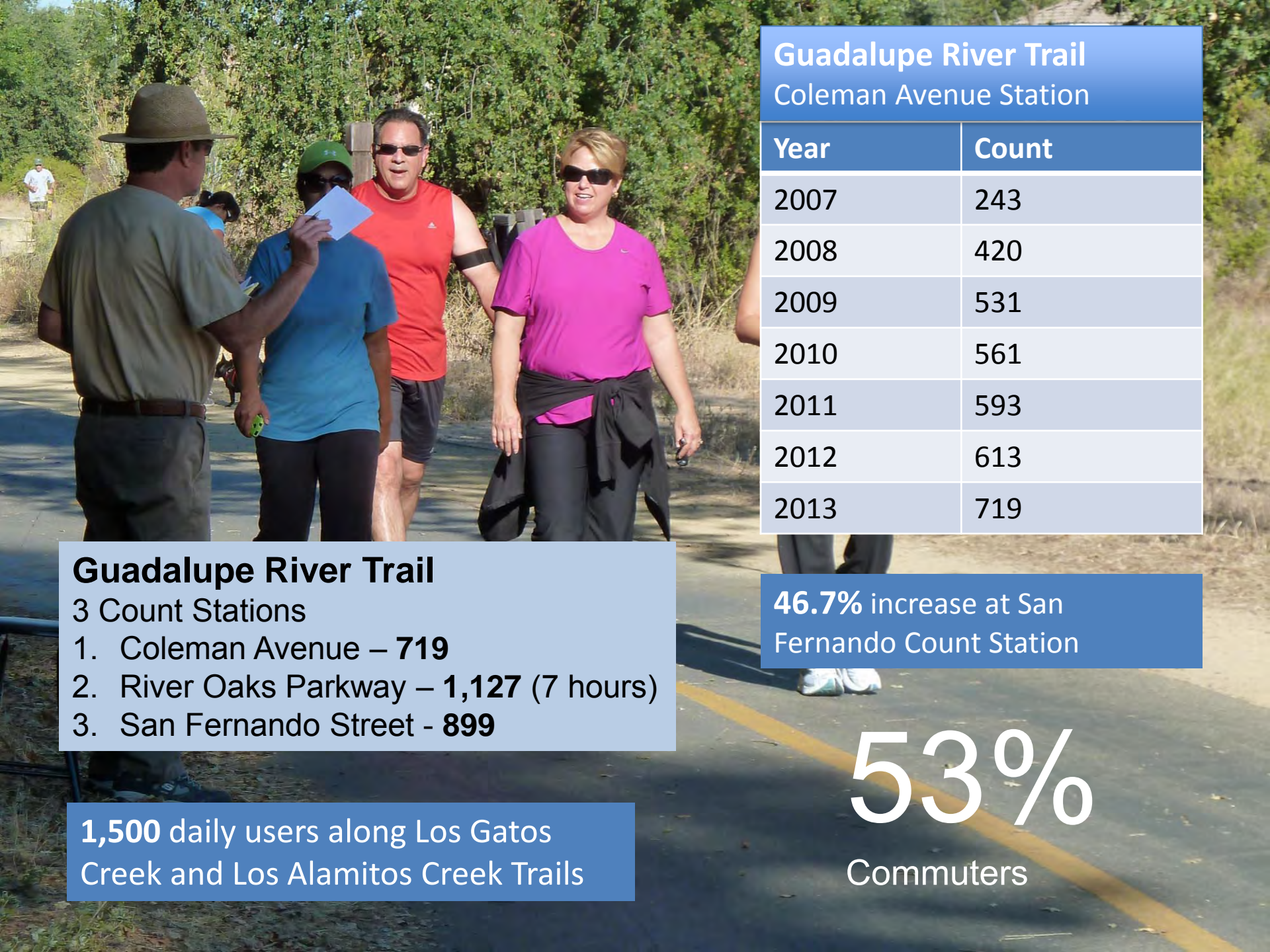
TIP: Adopting an existing innovation also counts

Innovation #5: Gather Data









Guadalupe River Trail Coleman Avenue Station

Year	Count
2007	243
2008	420
2009	531
2010	561
2011	593
2012	613
2013	719

Guadalupe River Trail

3 Count Stations

1. Coleman Avenue – **719**
2. River Oaks Parkway – **1,127** (7 hours)
3. San Fernando Street - **899**

46.7% increase at San
Fernando Count Station

1,500 daily users along Los Gatos
Creek and Los Alamitos Creek Trails

53%

Commuters



TRAIL COUNT 2013



7th Annual Count
of Trail Users in
San José

HOW MANY PEOPLE USE SAN JOSE TRAILS?

San Jose's 7th annual count occurred on Wednesday, September 18. Counts at seven stations occurred along existing trail systems and a future trail alignment. Four stations were staffed for 12 hours (7:00 am to 7:00 pm) and the remaining stations were monitored during peak travel periods (7:00 am to 9:00, and 4:00 pm to 7:00).

- Guadalupe River-Coleman Avenue station reported a 17.3% increase. The Coleman Station has been used over the past 7 years, with continually increasing volumes year after year. A newly paved 6.7-mile extension (Highway 880 to Gold Street) is believed to be the primary reason for this year's increase.
- Guadalupe River-San Fernando Street station reported a significant 46.7% increase. This

count station is within the downtown core with employment and multi-modal travel resources nearby. This figure builds upon last year's 34.5% increase.

- Guadalupe River-River Oaks Parkway was a new station, and the busiest for the day. Although counts only occurred over 7 hours, 1,127 persons were seen passing this point.
- Los Gatos Creek-Hamilton Avenue reported a 5.4% increase in usage with about 1,500 total users.
- Los Gatos Creek-Auzerais Avenue reported a decline of -6.4%. The trail is not yet connected to regional systems and has less than 100 users.
- The Los Alamitos Creek-Camden Avenue station reported a 7.9% increase in usage.
- The Five Wounds neighborhood counted over 80 persons walking along the undeveloped corridor, recorded at William Street / Peach Court.
- The Three Creeks Trail was counted by Save Our Trails members during morning and evening peak periods to support grant writing.

GUADALUPE RIVER- Coleman Ave Station

Total trail users:

2007 - 243 users
2008 - 420 users
2009 - 531 users
2010 - 561 users
2011 - 593 users
2012 - 613 users
2013 - 719 users



Summary Report

TIP: Your data is important to other agencies



Innovation #6: Communications

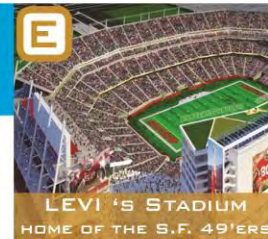




Transit & Trails



GUADALUPE RIVER TRAIL



North
9 / 14.4
mi / km
Total
Trail
Length



Available throughout
Downtown San Jose



Current Route
Information





Local and National news



San Jose Trails @SanJoseTrails

San Jose trail project updates - program milestones - upcoming closures - relevant news stories. Hosted by Yves Zsutty, San Jose Trail Manager. San Jose, California - sjparks.org/trails

TWEETS 2,150 FOLLOWING 61 FOLLOWERS 864 Edit profile

Tweets

San Jose Trails @SanJoseTrails 4h
Want a Healthier City? Prescribe Biking - Sarah Goodyear - The Atlantic Cities theatlanticcities.com/commute/2014/0...
Expand

San Jose Trails @SanJoseTrails 4h
Penitencia Creek Trail: Gateways along trail lead to #BART will be memorable and #Placemaking in San Jose. pic.twitter.com/v3IKOsquFN

MONUMENT PLAN
RAIL / COLUMN ELEVATION
ELEVATION SCALE 1/8" = 1'-0"

Expand

San Jose Trails @SanJoseTrails 4h



TIP: Be the best source for trail-focused content

San Jose Trails
@SanJoseTrails

San Jose trail project updates - program milestones - upcoming closures - relevant news stories. Hosted by Yves Zsutty, San Jose Trail Manager.
San Jose, California · sjparks.org/trails

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RAIL / COLUMN ELEVATION
ELEVATION
SCALE 1/8" = 1'-0"

San Jose Trails @SanJoseTrails · 4h

Innovation #7: Public Safety

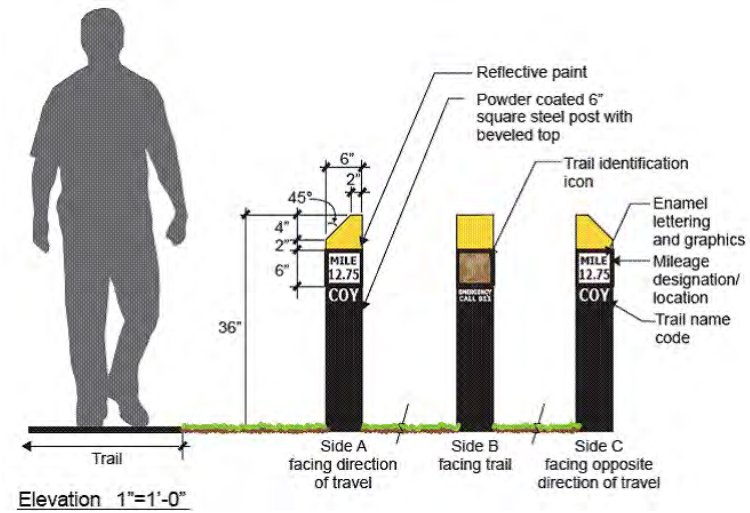






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9.25E**

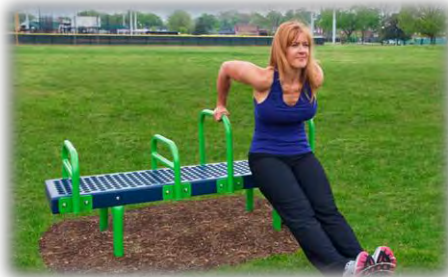
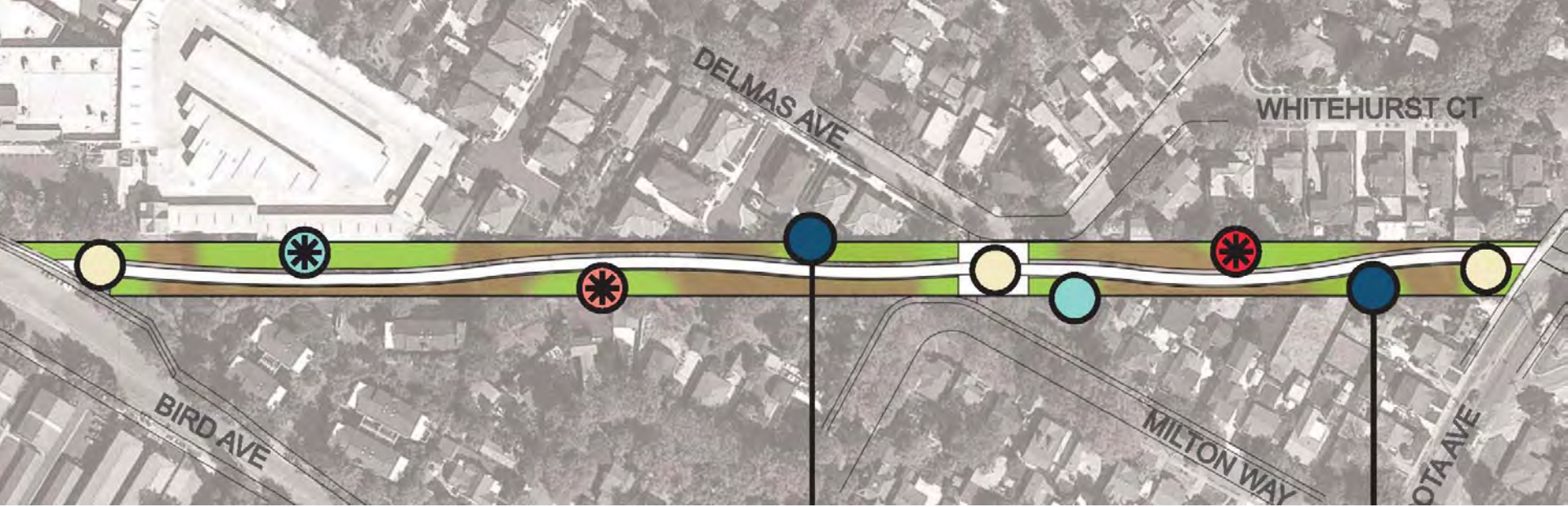






Innovation #8: Play







ORC

FRUIT THEMED
WALL MURAL

FRUIT/TRAIN THEMED
RESILIENT MATTING INLAY

STACKED CRATE MAZE
"PACKAGING THE FRUIT"

SPINNER
"FRUIT BASKETS"

ROLLER SLIDE
"FRUIT PROCESSING"

TRAIN PLAY STRUCTURE
"TRANSPORTING THE FRUIT"



LANDSCAPE CLIMBER
"FRUIT PEEL"

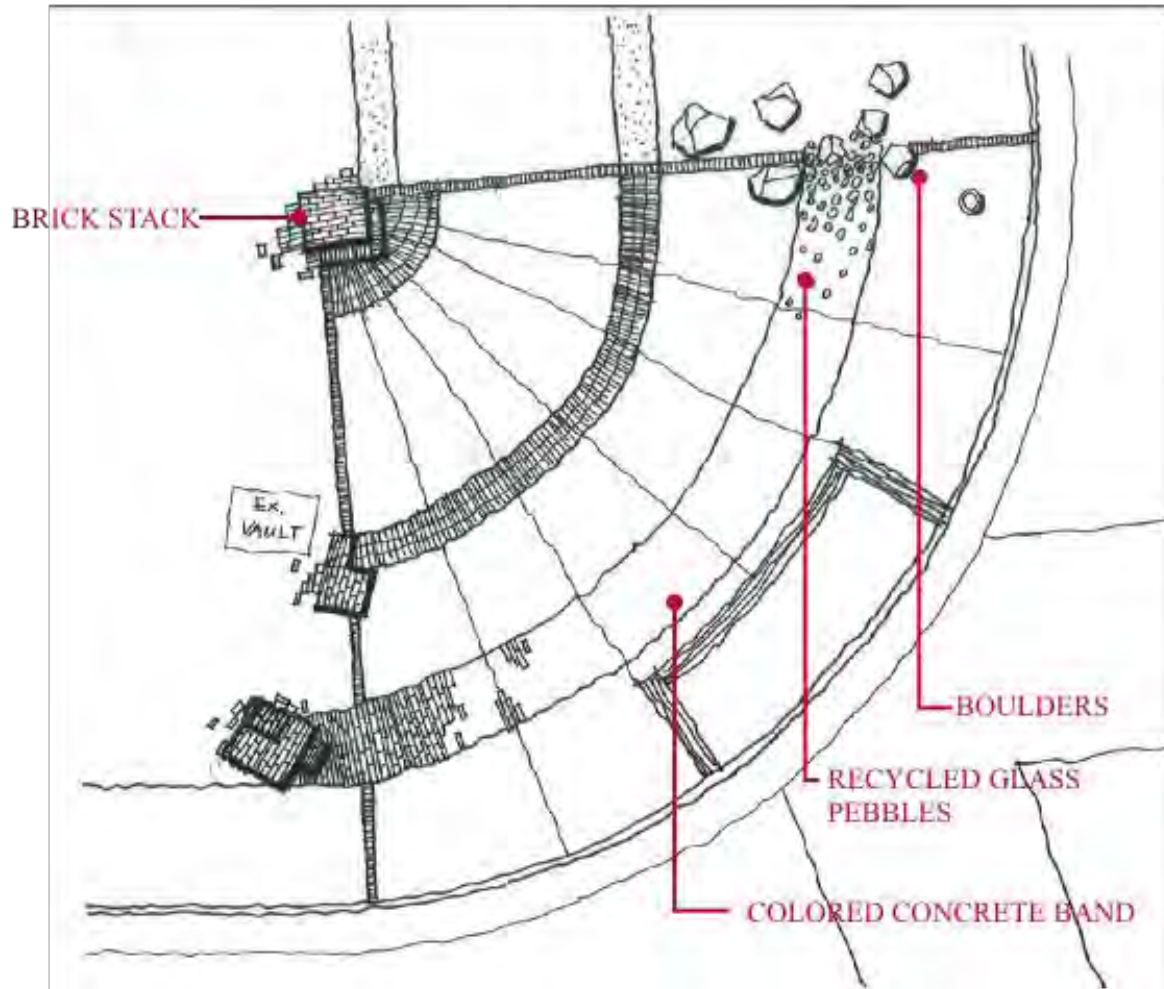
TWISTERS
"FRUIT TREE SAPPLING"

TREE SWINGS
"PICKING THE FRUIT"

LIFE SIZE FRUIT
INTERACTIVE
SCULPTURE

Innovation #9: Placemaking





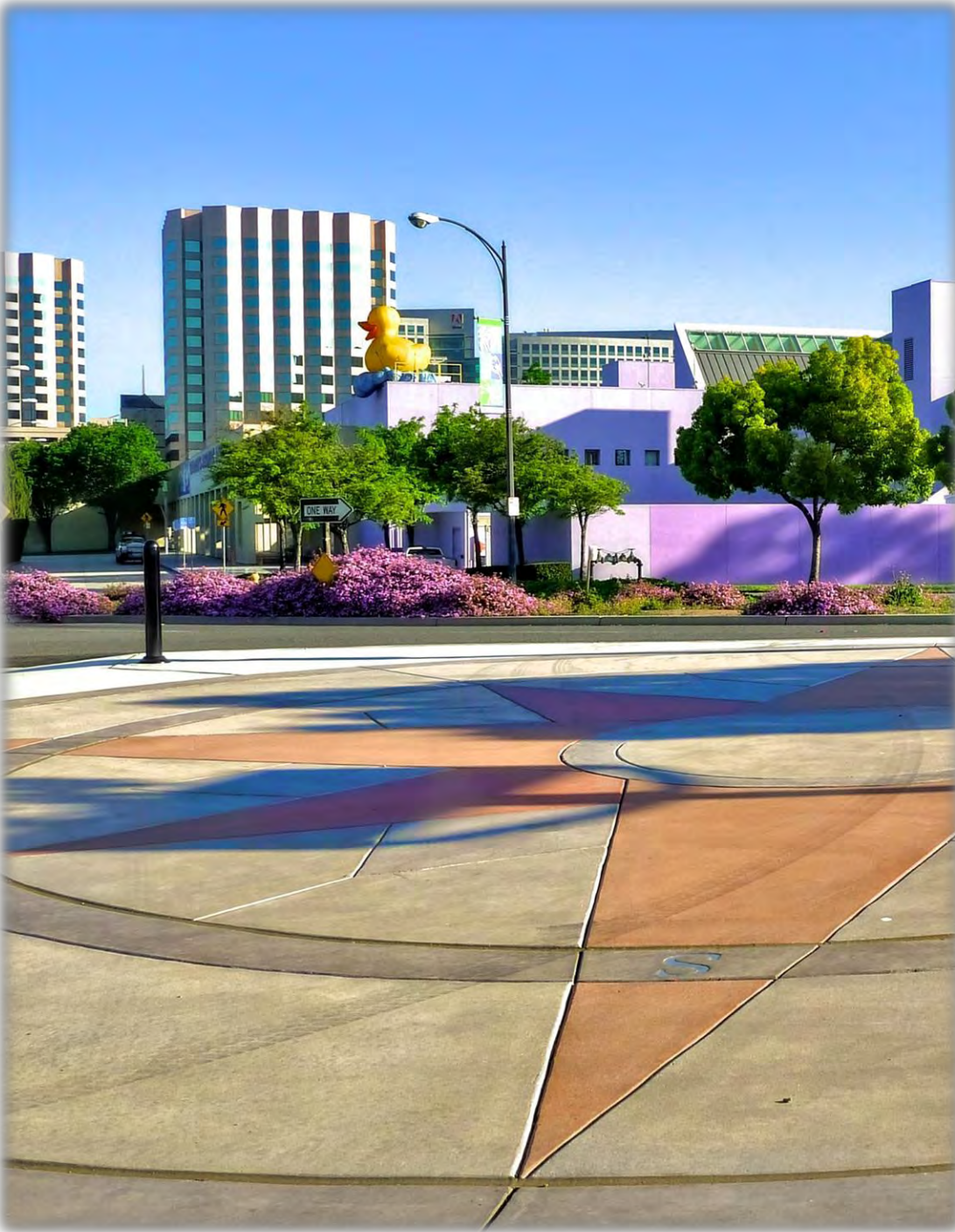
STORY ROAD PLAZA CONCEPT 1

COYOTE CREEK TRAIL (STORY- SELMA OLINDER)



GUADALUPE RIVER
PARK









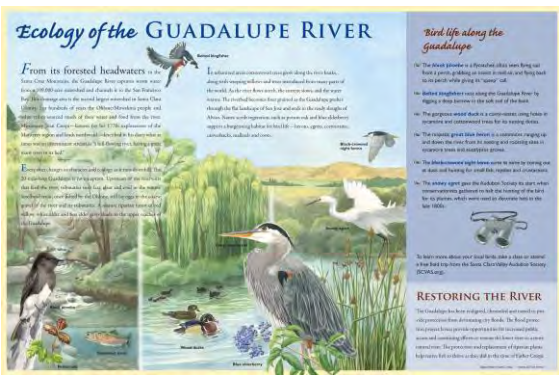
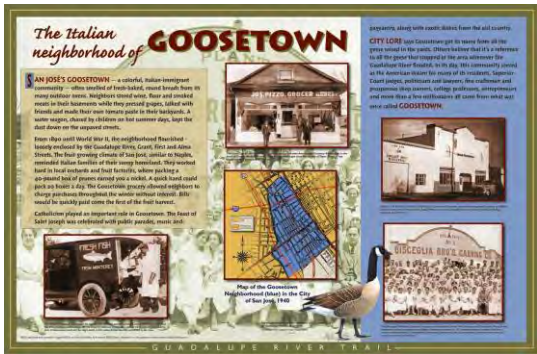
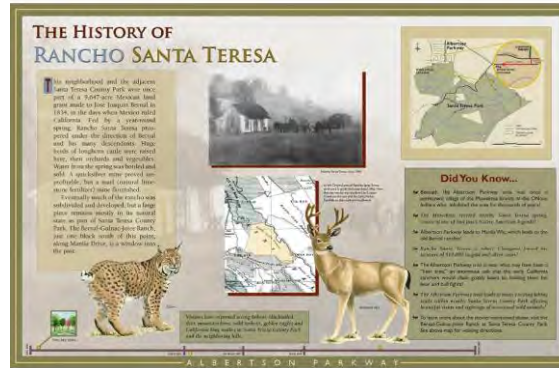
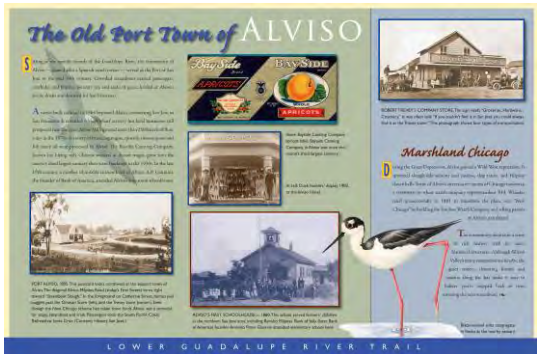
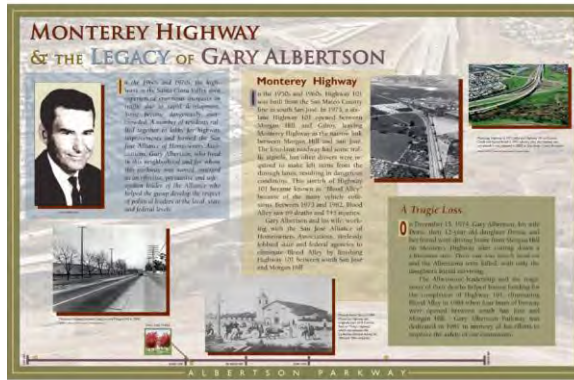
PLAN FOR LOS GATOS CREEK REPLACEMENT
JULY 24/13 (REVISED) SAN JOSE, CAL.





Innovation #10: Art / Interpretation







JOURNEY INTO ALUM ROCK PARK



Courtesy California Room, San Jose Public Library

ABOVE: Narrow gauge railway car in Alum Rock Park. Electric trains of the San Jose and Santa Clara Railway Company were a popular way to reach the park before automobiles became common.

BELOW: Natatorium at Alum Rock Park. A natatorium is a large indoor swimming pool. The buildings were dismantled when they became overused.



Courtesy California Room, San Jose Public Library



Courtesy History, San Jose

Horses and buggies at Alum Rock Park about 1908



Courtesy History, San Jose

An early automobile arriving at the park in 1909



Courtesy California Room, San Jose Public Library

Mineral springs fountain on the left, and women's bath house on the right

Rustic Retreat to Grand Resort

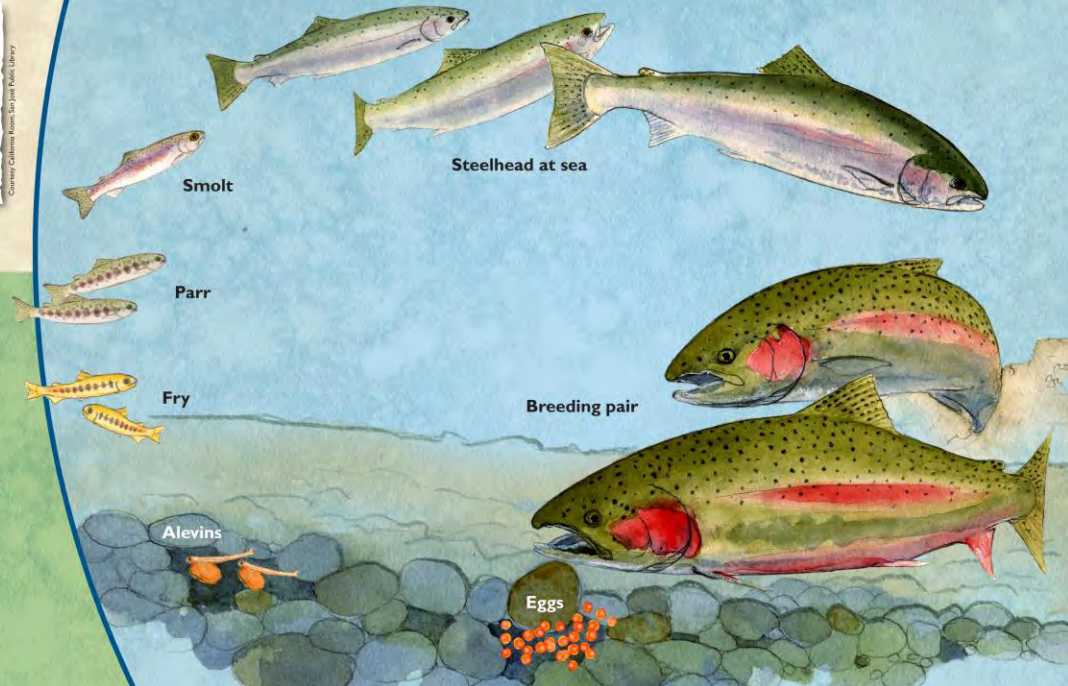
Founded in 1872, Alum Rock Park was California's first city park. The Native Americans had named the creek running down the canyon *shistuk*, or place of rabbits. In the 1890s, a steam-powered, narrow-gauge train transported visitors into the park with its dance pavilion, restaurant, outdoor plunge, bathing grottos and more than two dozen mineral hot springs. Around the turn of the century, an electric train and then a standard-gauge locomotive replaced the small steam engine as the park's character changed from rustic retreat to a large-scale grand resort with an added exotic zoo, aviary and indoor swimming pool.

The Great Depression and the growing popularity of the automobile transportation doomed the resort's train. People, however, kept flooding into the park. A record was set on Easter in 1935 when 4,400 cars were counted entering the grounds. The park draws visitors to its abundant natural beauty today.

Return of the Steelhead Trout

Flowing through Alum Rock Park to join with Coyote Creek, Upper Penitencia Creek is an essential waterway and an important habitat for the threatened steelhead trout (*Oncorhynchus mykiss*).

Steelhead trout journey into Upper Penitencia Creek between winter and spring to mate and spawn after spending two to three years in the open ocean. The silvery speckled females prepare nests on the creek's clean gravel bottom. Steelhead spawn in fast flowing streams that are well oxygenated, relatively silt free and shaded by trees. With ideal conditions, the eggs hatch in about a month. Efforts are being made to increase the steelhead trout populations along Upper Penitencia Creek by removing man-made barriers, maintaining and enhancing the tree canopy and reducing sedimentation and erosion in the waterway. The trail's unique boardwalk preserves the sycamore trees with their large and cooling canopies, which shade the water for the steelhead.





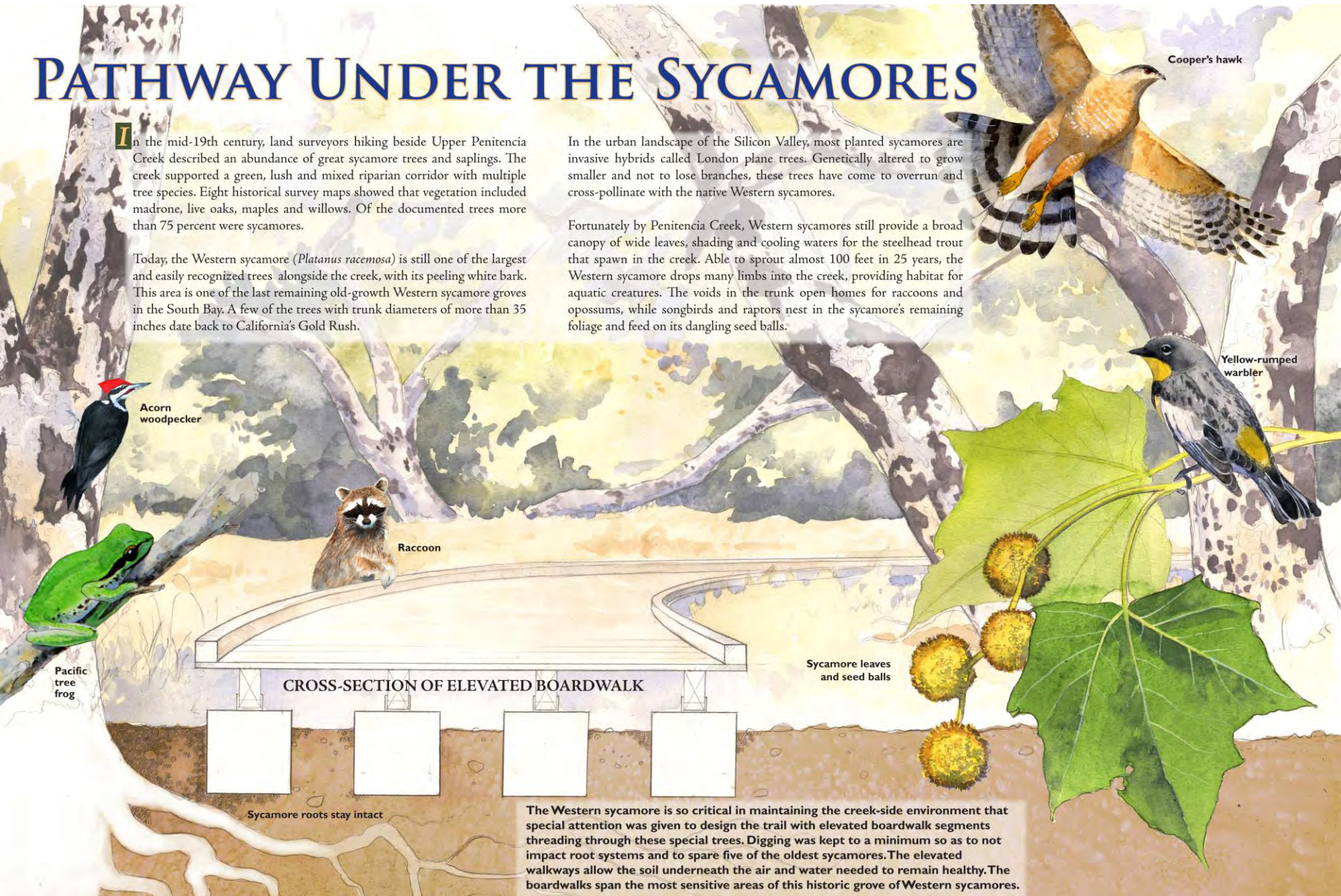
PATHWAY UNDER THE SYCAMORES

In the mid-19th century, land surveyors hiking beside Upper Penitencia Creek described an abundance of great sycamore trees and saplings. The creek supported a green, lush and mixed riparian corridor with multiple tree species. Eight historical survey maps showed that vegetation included madrone, live oaks, maples and willows. Of the documented trees more than 75 percent were sycamores.

Today, the Western sycamore (*Platanus racemosa*) is still one of the largest and easily recognized trees alongside the creek, with its peeling white bark. This area is one of the last remaining old-growth Western sycamore groves in the South Bay. A few of the trees with trunk diameters of more than 35 inches date back to California's Gold Rush.

In the urban landscape of the Silicon Valley, most planted sycamores are invasive hybrids called London plane trees. Genetically altered to grow smaller and not to lose branches, these trees have come to overrun and cross-pollinate with the native Western sycamores.

Fortunately by Penitencia Creek, Western sycamores still provide a broad canopy of wide leaves, shading and cooling waters for the steelhead trout that spawn in the creek. Able to sprout almost 100 feet in 25 years, the Western sycamore drops many limbs into the creek, providing habitat for aquatic creatures. The voids in the trunk open homes for raccoons and opossums, while songbirds and raptors nest in the sycamore's remaining foliage and feed on its dangling seed balls.



Cooper's hawk

Yellow-rumped warbler

Acorn woodpecker

Raccoon

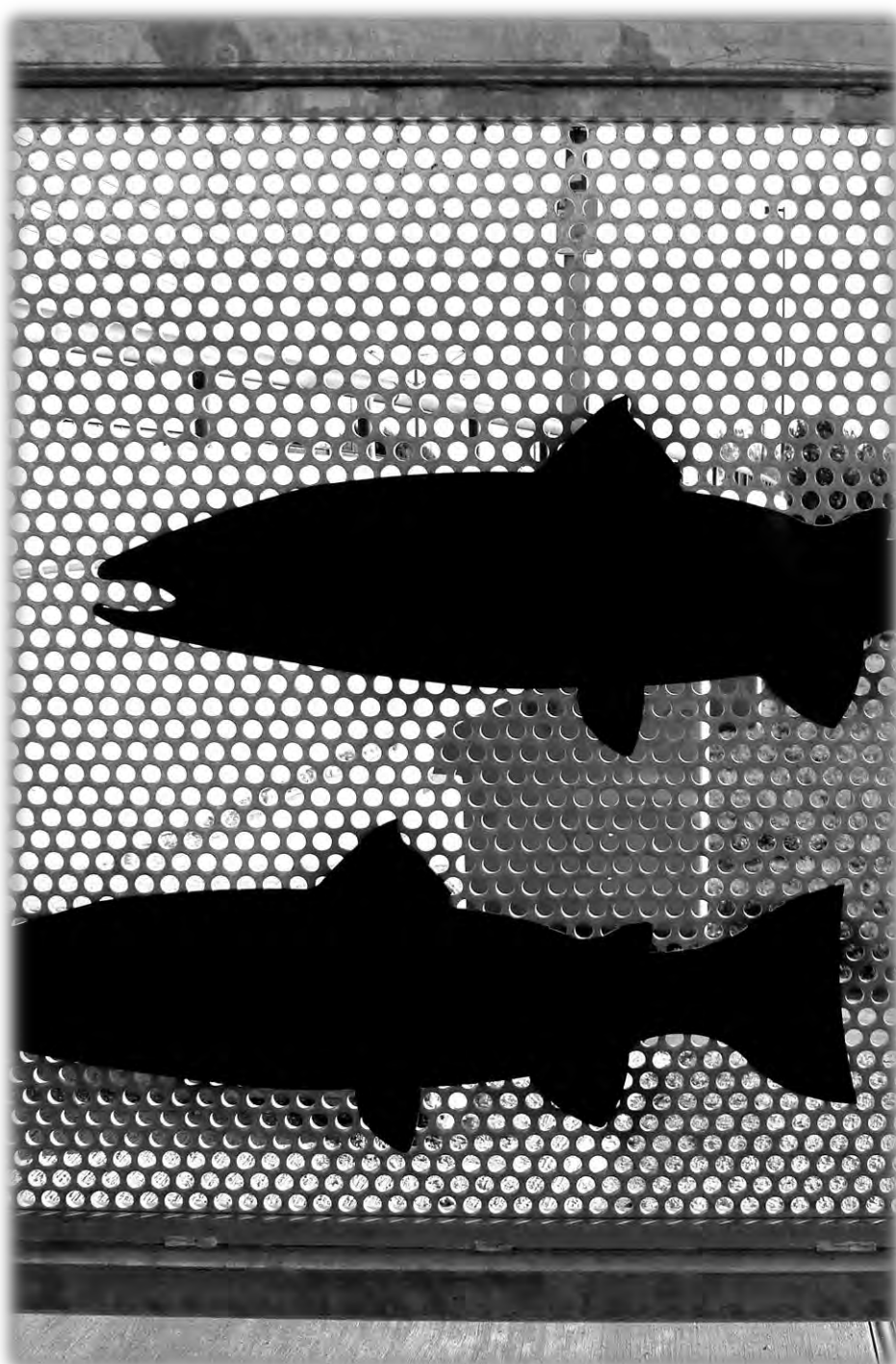
Pacific tree frog

CROSS-SECTION OF ELEVATED BOARDWALK

Sycamore roots stay intact

Sycamore leaves and seed balls

The Western sycamore is so critical in maintaining the creek-side environment that special attention was given to design the trail with elevated boardwalk segments threading through these special trees. Digging was kept to a minimum so as to not impact root systems and to spare five of the oldest sycamores. The elevated walkways allow the soil underneath the air and water needed to remain healthy. The boardwalks span the most sensitive areas of this historic grove of Western sycamores.



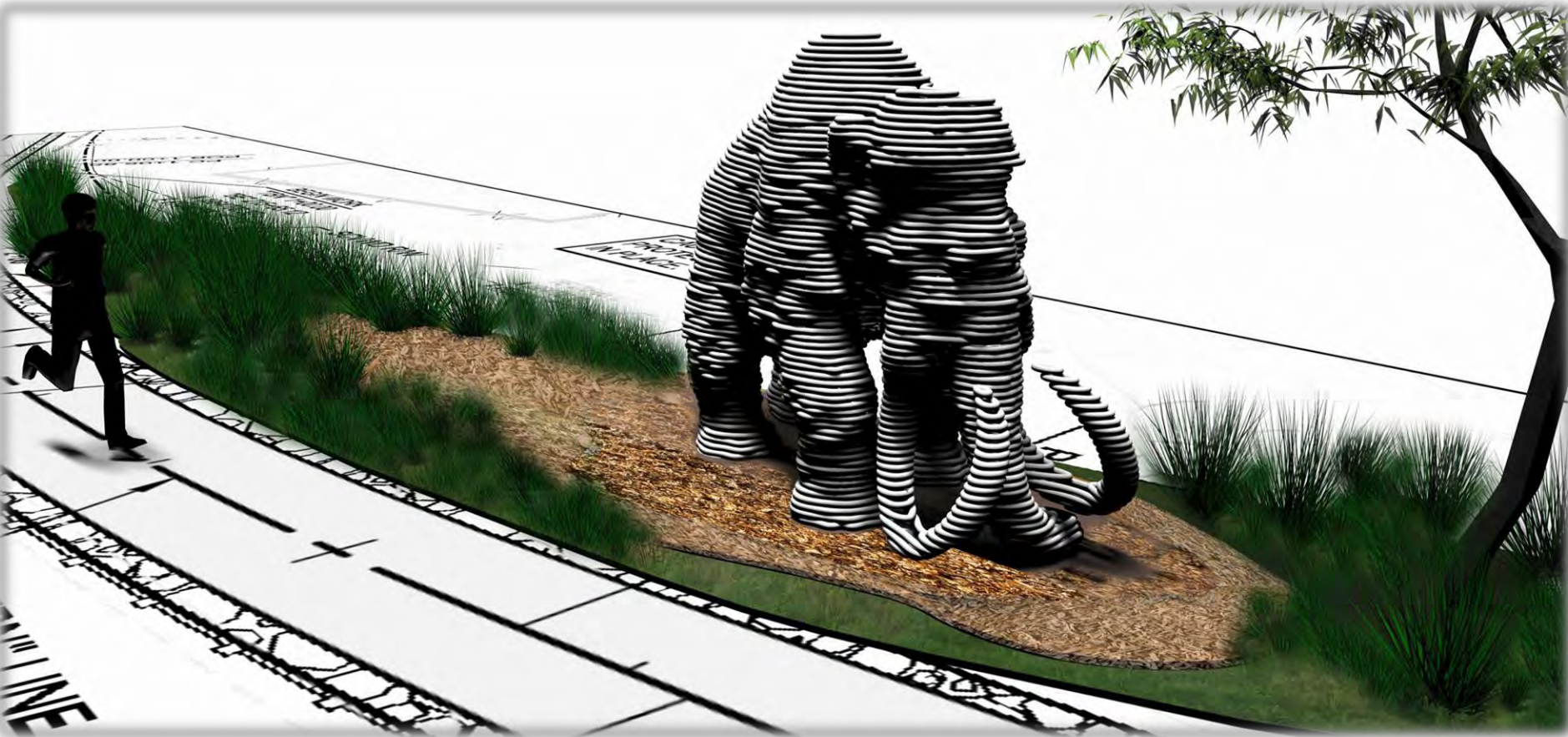




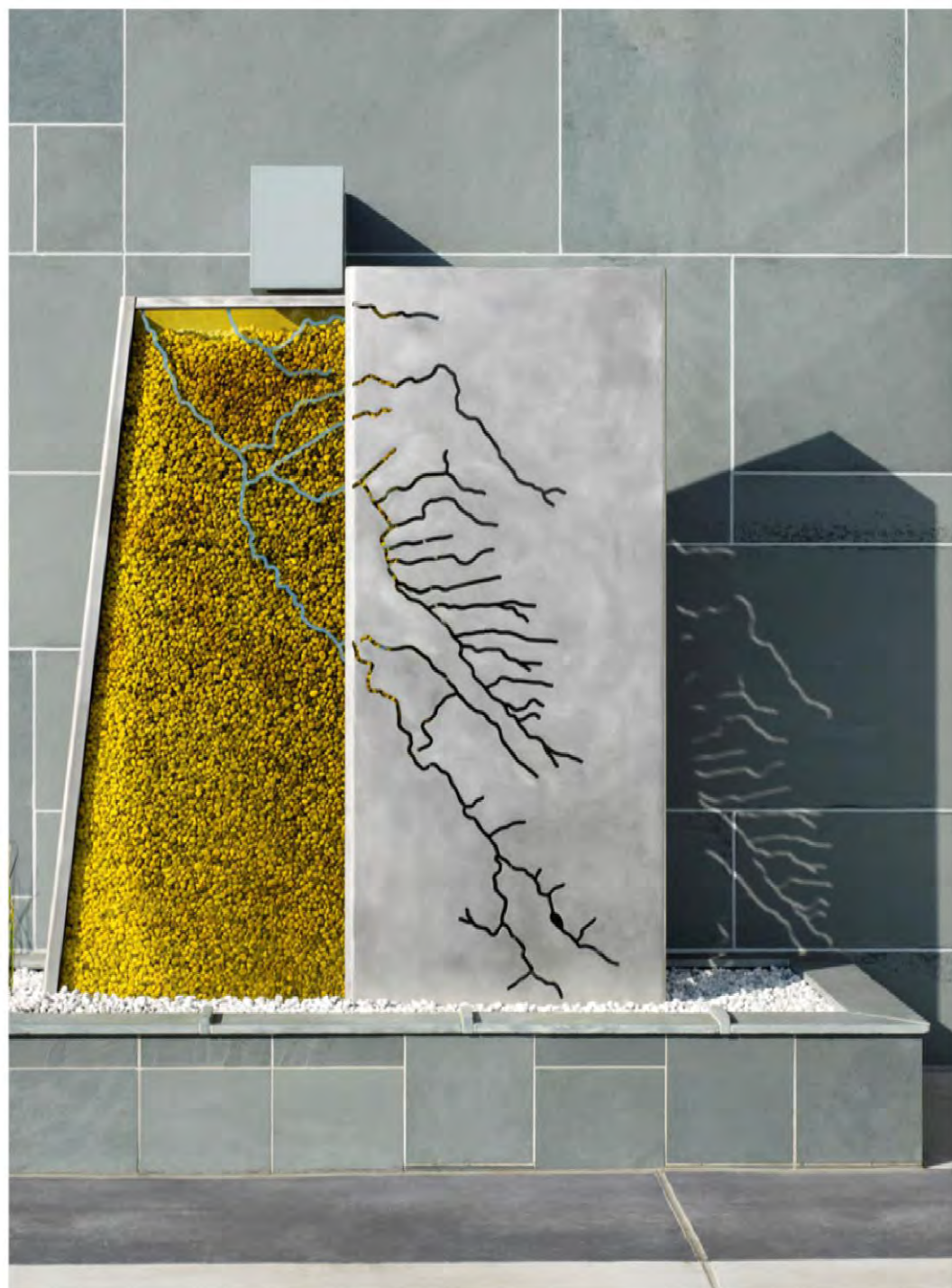
OFF THE RUNWAY

In 1949, the first commercial flight, a Southern Airways DC-3, landed on the airport's single, 4,000-foot runway. It carried 49 passengers and 2,500 chickens. During the next few decades, Gates City's airport grew into a major regional hub. Two new airport buildings were added by enlarging the nearby Grady-Kyle House. Two new runways were built. The airport was from 4,000 landings and takeoffs in 1950 to nearly 200,000 annually at the beginning of this century.

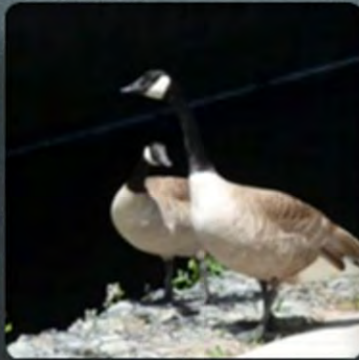








Final Thought: Accept More





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SanJoseTrails